

TABLE 1.—Solar radiation intensities during May, 1920—Continued.

MADISON, WIS.

Suns zenith distance.											
Date.	75th meridian time.	Air mass.									Local mean solar time.
		A. m.					P. m.				
	e.	5.0	4.0	3.0	2.0	1.0*	2.0	3.0	4.0	5.0	e.
May 8.....	mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.
14.....	7.04				1.02		1.29	1.04	0.83		5.79
19.....	3.81						1.34				4.17
20.....	8.48						1.38				6.27
21.....	5.16						1.38				3.18
24.....	6.27			0.93			1.44	1.21			7.04
25.....	7.87						1.44	1.01			8.48
29.....	9.83						1.35				7.57
Means.....	6.27			1.05	1.18		1.37	1.09	(0.83)		5.79
Departures.....				(0.99)	(1.10)						
				+0.08	±0.00	+0.03	+0.05	-0.08			

LINCOLN, NEBR.

May 8.....	6.76				0.79						6.02
21.....	7.87				1.23						8.81
Means.....					(1.01)						
Departure.....					-0.13						

SANTA FE, N. MEX.

May 1.....	2.74		1.05	1.17							2.49
4.....	1.88			1.27		1.42	1.60				3.15
6.....	1.78	1.06	1.21	1.33	1.44	1.61	1.42	1.27	1.16		2.49
7.....	2.36	0.91	1.01	1.11	1.28						6.50
18.....	3.81			1.23							4.17
20.....	3.81		1.06	1.20	1.30	1.50					3.30
24.....	7.29		0.98	1.12							5.36
28.....	6.50			1.08			1.34				4.75
29.....	6.02		1.06	1.17	1.31						4.95
Means.....	(0.98)	1.06	1.19	1.35	1.57	(1.38)	(1.27)	(1.16)			
Departures.....	-0.03	+0.00	+0.02	+0.06	+0.08	+0.14	-0.07				

* Extrapolated.

TABLE 2.

Week beginning—	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.
Apr. 30.....	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
May 7.....	605	516	404	104	64	-47	1,247	-1,028	-2,665
May 14.....	394	423	406	-92	-41	-71	801	-1,318	-3,163
May 21.....	513	505	367	23	31	-135	759	-1,104	-4,106
May 28.....	395	584	502	-99	107	-10	69	-357	-4,179

MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE.

By C. G. ABBOT, Assistant Secretary.

(Smithsonian Institution, Washington, June 30, 1920.)

In continuation of preceding publications, I give in the following table the results obtained at Calama, Chile, in April, 1920, for the solar constant of radiation. The reader is referred to this REVIEW for February, August, and September, 1919, for statements of the arrangement and meaning of the table.

Date.	Solar constant.	Method.	Grade.	Transmission coefficient at 0.5 micron.	Humidity.			Remarks.
					p/pSC.	V. P.	Rel. hum.	
1920.								
Apr. 1	cal.							
1.937	E.....	F-		0.842	0.358	cm.	Per cent.	
1.938	M.....							
1.952	M.....							
1.944	M.....							
1.944	W. M.....							
1.956	M.....	S		.844	.367	.43	45	
1.962	M.....							
1.960	W. M.....							
1.951	M.....	S-		.851	.540	.36	25	Cirri in east and west.
1.961	M.....							
1.956	W. M.....							
1.939	M.....	S-		.855	.468	.34	30	Distant cirri in east and southwest.
1.974	M.....							
1.962	W. M.....							
1.964	M.....	S-		.853	.597	.32	37	
1.951	M.....							
1.960	W. M.....							
1.942	E.....	G+		.838	.508	.23	24	
1.915	M.....							
1.918	M.....							
1.925	W. M.....							
1.902	M.....	S		.863	.520	.27	21	
1.921	M.....							
1.922	M.....							
1.916	W. M.....							
1.928	M.....	S		.860	.518	.27	22	Cirri low in northeast.
1.924	M.....							
1.933	M.....							
1.927	W. M.....							
1.965	E.....	E		.848	.463	.32	30	
1.955	M.....							
1.961	M.....							
1.956	M.....							
1.960	W. M.....							
1.960	E.....	E-		.866	.515	.36	32	
1.964	M.....							
1.960	M.....							
1.963	M.....							
1.961	W. M.....							
1.956	M.....	S		.868	.678	.27	17	Thin cirri scattered over sky, especially in east.
1.961	M.....							
1.958	W. M.....							
1.950	M.....	S-		.855	.568	.36	23	Cirri scattered about sky, preventing earlier observations.
1.959	M.....							
1.955	W. M.....							
1.967	E.....	VG-		.854	.488	.31	30	Cirro-cumuli forming low in east. Cirri also appearing in northwest. Chuqui smoke in all observations.
1.977	M.....							
1.949	M.....							
1.941	M.....							
1.954	W. M.....							
1.964	E.....	E		.864	.566	.26	26	Wind carried much dust at times.
1.961	M.....							
1.958	M.....							
1.952	M.....							
1.957	W. M.....							
1.930	M.....	S-		.861	.541	.25	22	Chuqui smoke interfered with M ₂ observations.
1.944	M.....							
1.959	M.....							
1.944	W. M.....							
1.910	M.....	S-		.859	.528	.28	24	Some cirri in north. Chuqui smoke interfered with all observations.
1.963	M.....							
1.935	W. M.....							
1.939	M.....	S-		.832	.466	.29	33	Cirri in west extending east. Cirri approaching sun at M ₂ preventing further observations.
1.950	M.....							
1.946	W. M.....							
1.952	M.....	S		.852	.433	.41	39	Chuqui smoke interfered.
1.953	M.....							
1.953	W. M.....							
1.950	E.....	E		.845	.406	.38	33	
1.956	M.....							
1.944	M.....							
1.944	M.....							
1.948	W. M.....							

Date.	Solar constant.	Method.	Grade.	Transmission coefficient at 0.5 micron.	Humidity.			Remarks.
					ρ/ρ_{SC} .	V. P.	Rel. hum.	
1920.								
A. M.	cal.							
Apr. 20	1.957	M ₂	S	0.853	0.438	cm. 0.36	Per cent. 27	
	1.960	M ₂						
	1.955	M _{1.5}						
	1.958	W. M.						
21	1.929	M ₂	S—	.847	.408	.43	39	Cirri around most of horizon. Probably smoke from Chuqui affected M ₂ and M _{1.5} observations.
	1.943	M ₂						
	1.934	M _{1.5}						
	1.937	W. M.						
22	1.935	E ₀	VG—	.856	.492	.38	39	Chuqui smoke affected earlier observations.
	1.965	M ₂						
	1.935	M ₂						
	1.964	M _{1.5}						
	1.949	W. M.						
23	1.966	M ₂	S—	.856	.456	.29	26	Cirri in north. Chuqui smoke interfered. Also dust clouds in M ₂ .
	1.950	M ₂						
	1.934	M _{1.5}						
	1.950	W. M.						
24	1.948	M _{1.5}	S—	.860	.635	.34	20	Cirri scattered about sky, preventing earlier observations. Chuqui smoke and dust from gusty east wind bad.

Date.	Solar constant.	Method.	Grade.	Transmission coefficient at 0.5 micron.	Humidity.			Remarks.
					ρ/ρ_{SC} .	V. P.	Rel. hum.	
1920.								
A. M.	cal.							
Apr. 25	1.956	M ₂	S	0.849	0.406	cm. 0.29	Per cent. 25	
	1.945	M ₂						
	1.949	W. M.						
26	1.953	E ₀	VG+	.868	.446	.30	26	
	1.970	M ₂						
	1.957	M ₂						
	1.957	M _{1.5}						
	1.960	W. M.						
27	1.954	M ₂	S—	.826	.446	.29	25	Smoke from Chuqui. Wind carried dust during M ₂ .
	1.948	M ₂						
	1.948	M _{1.5}						
	1.949	W. M.						
28	1.943	M _{1.5}	S—	.850	.518	.39	16	Thin cirri in east. Cumuli forming over mountains. Probably Chuqui smoke early.
29	1.975	M ₂	S	.859	.525	.33	18	Cirri in northeast and west. Chuqui smoke early in morning.
	1.969	M _{1.5}						
	1.972	W. M.						
30	1.960	M _{1.5}	S—	.852	.634	.35	19	Distant cirri in west. Dust interfering with observations. Probably some smoke.
	1.959	M _{1.5}						
	1.959	W. M.						

WEATHER OF THE MONTH.

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

GENERAL PRESSURE CONDITIONS.

By H. C. FRANKENFIELD, Supervising Forecaster.

(Dated June 15, 1920.)

North Pacific Ocean.—At Midway Island pressure was below normal throughout the month, except on May 29, with a great depression (29.56 inches), on May 4, and another of somewhat less intensity (29.70 inches), on May 10. Pressure was also low at Honolulu during the month, except from May 12 to 15, inclusive, when it was about normal.

Alaska.—Over northern Alaska and the Aleutian Islands reverse conditions prevailed, except on a few days, with principal crests of high pressure during the first week of the month and about May 25. Over central Alaska moderately high pressure also prevailed, except between May 15 and 25, when it was low, while over southern Alaska changes were not very decided, with a tendency toward slightly below normal conditions, except between May 9 and 15 and at the close of the month.

United States.—There were no great HIGHS or LOWS during the month, and the general pressure distribution may be roughly divided into two periods, one of moderately high pressure, a part of the Alaska and Aleutian high that moved southeastward across the Canadian Northwest and the western portion of the United States during the first half of the month, gradually transferring itself over eastern Canada and the eastern portion of the United States during the first 10 days of the second half of the month, and another of rapidly alternating high and low pressure within very moderate limits that followed the high pressure over the western portion of the country during the second half of the month, reaching the Atlantic coast during the closing days.

North Atlantic Ocean.—Stations of observation at Bermuda and Horta. Moderately high pressure pre-

vailed during the first three weeks of the month, and low pressure thereafter, with a marked depression on May 24 and 25.

NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

Atmospheric conditions over the North Pacific Ocean showed greater activity during May than in April. Several well-developed depressions occurred during the month of which perhaps the most important was that which prevailed from the 11th to the 15th over the region south and southeast of the Aleutian Islands. The Japanese S. S. *Kinkasan Maru*, Capt. Gillespie, from Meike for San Francisco, encountered this storm, and on May 12, when in latitude 45° 20' N., 158° 42' W., reported as follows:

Strong to whole gale, very high sea. Ship laboring and straining heavily. Glass fell to 28.95 (28.88 inches, corrected) at 6 p. m., which was the lowest.

It is possible that this storm was a redevelopment of one which prevailed from the 4th to the 7th west and northwest of Midway Islands and which caused at times winds reaching the force of a strong gale.

In Asiatic waters pressure was moderately low during the month, with a succession of depressions moving northeastward over the Japanese islands. Of these, the principal one appears to have been that of the 24th to 26th. On the 25th a barometer reading of 28.91 inches was reported by a ship immediately to the eastward of the Tsugura Strait.

Pressure was much above the normal over Bering Sea during the first and third decades and moderately so during the second decade. From May 1 to 10 the average pressure at Dutch Harbor was 30.36 inches—approximately one-half inch above the normal. It is